

What is claimed is:

1. A magnetic recording medium which comprises a lower layer comprising a nonmagnetic powder and a binder and a magnetic layer comprising a ferromagnetic powder, an abrasive and a binder provided in this order on a nonmagnetic flexible support, wherein said magnetic layer has a mean thickness d ranging from 0.01 to 0.1 μm , said ferromagnetic powder is an acicular ferromagnetic alloy powder having a mean major axis length equal to or less than 0.1 μm and a saturation magnetization σ_s equal to or less than 120 A \cdot m²/kg, and the number of abrasive protrusions ranging in height from 5 to 10 nm on the surface of said magnetic layer ranges from 15 to 25/225 μm^2 .
2. The magnetic recording medium of claim 1, wherein said ferromagnetic powder has a mean particle volume of from 1,500 to 15,000 nm³.
3. The magnetic recording medium of claim 1, wherein said ferromagnetic powder has a coercivity H_c equal to or higher than 167 kA/m.
4. The magnetic recording medium of claim 1, wherein particles of said ferromagnetic powder existing in said magnetic layer has a fill rate by volume equal to or higher than 30 percent.
5. The magnetic recording medium of claim 1, wherein said mean thickness d of said magnetic layer ranges from 0.03 to 0.08 μm .
6. The magnetic recording medium of claim 1, wherein said magnetic layer thickness d satisfies a relation of $\sigma/d \leq 0.5$ (σ is a standard deviation of the thickness d).

7. The magnetic recording medium of claim 1, wherein said magnetic layer has a level of residual magnetization Φ_r ranging from 5 to 50 mT $\cdot \mu$ m.

8. The magnetic recording medium of claim 1, wherein said ferromagnetic powder has a saturation magnetization σ_s ranging from 80 to 120 A \cdot m²/kg.

9. The magnetic recording medium of claim 1, wherein said acicular ferromagnetic alloy powder has a minor axis length ranging from 0.005 to 0.02 μ m.

10. The magnetic recording medium of claim 1, wherein said acicular ferromagnetic alloy powder has an acicular ratio (major axis length divided by minor axis length) ranging from 3 to 15.